EXCELLING EXCEL
“BEYOND BASICS”

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Information and Communication Technology Engineering

Marwadi University , Rajkot
Faculty of technology studies

EXCELLING EXCEL “BEYOND BASICS” was an event conducted by the Data Science Club at MA112 on 4/03/2022. The event was mainly focused on information about data science, visualizing data using Excel, instructions in Excel and learning pivot table functionality in excel. Flow of the session :

1.About DS Club:

The Data Science Club, by the students of ICT department, guided by Prof. Nishith Kotak Sir of ICT dept., aims to explore the vastness of Data Science and data visualisation. The club also aims to teach its members about what and how data can be used to draw conclusions and make informed decisions after correct analysis.

2.What is Data Science?

Data Science is the study of data to extract meaningful insights for business. It is a multidisciplinary approach that combines principles and practices from the fields of mathematics, statistics, artificial intelligence, and computer engineering to analyse large amounts of data. This analysis helps data scientists to ask and answer questions like what happened, why it happened, what will happen, and what can be done with the results.

3.Excel

Excel skills have been recognised as a valuable tool for data scientists and analysts because it allows them to quickly manipulate, analyse and visualise data without having to spend time learning complex programming languages such as python or R.

4.Reports vs Dashboards

There are many methods for collecting, analyzing and presenting data in the workplace. Reports and dashboards are two common tools you can use to track and review data

Reports are documents or presentations used to summarize or explain a subject. You may write a report to discuss any subject, from product sales to a pitch for a marketing campaign. You can also use words, charts and any other combination of text and images to present your report. When creating a report, you typically focus on a specific topic and gather extensive evidence to explain the topic.

Dashboards are tools that visually represent the overall status of a project or other subject. A dashboard often includes multiple metrics that focus on the same general subject. Dashboards provide an overview of a subject to explain the status of a business, client, team or individual. Typically, dashboards are software programs or websites that automatically interpret data and display it in a way that users can easily understand.

Reports focus on one specific topic and provide in-depth information on that subject, while dashboards offer a wide range of information using multiple metrics to explain the general status of a situation.

Many people use reports to guide presentations, but you can also submit them on their own for people to review. Reports are highly versatile documents, and you can adapt them to whatever specific purpose you have.

The primary purpose of a dashboard is to observe the status of a situation. Individuals working on a project can review key performance indicators and determine if they need to make any adjustments in their workflow to achieve their goals.

5.Dataset

A data set is an organized collection of data. They are generally associated with a unique body of work and typically cover one topic at a time. Information elements within a data set relate to one another, and analysts often categorize types of data to create relevant data sets that support important business processes, like financial metrics or sales transactions.

6.Types of datasets:

Numerical: A numerical data set is one in which all the data are numbers. You can also refer to this type as a quantitative data set, as the numerical values can apply to mathematical calculations when necessary.

Categorical: Categorical data sets contain information relating to the characteristics of a person or object. Data scientists also refer to categorical data sets as qualitative data sets because they contain information relating to the qualities of an object.

Bivariate: A data set with just two variables is a bivariate data set. In this type of data set, data scientists look at the relationship between the two variables. Therefore, these data sets typically have two types of related data.

Multivariate: A multivariate data set contains more than two variables. For example, the height, width, length and weight of a package you ship through the mail requires more than two variable inputs to create a data set. Since each value is unique, you can use different variables to represent each one.

Correlation: When there is a relationship between variables within a data set, it becomes a correlation data set. This means that the values depend on one another to exhibit change. Correlation can either be positive, negative or zero.

7.Null Values:

A null value in dataset is **used when the value in a column is unknown or missing**.
Missing Data can occur when no information is provided for one or more items or for a whole unit.
Missing data is a very big problem in a real-life scenarios.

8.Methods discussed in this event

1. **Command Method**
   In Excel, commands have the following characteristics:
   They perform actions in the same way that users do.
   They can do anything a user can do (subject to the limits of the interface used), such as altering Excel settings, opening, closing, and editing documents, initiating recalculations, and so on.
   They can be set up to be called when certain trapped events occur.
   They can display dialog boxes and interact with the user.

They can be linked to control objects so that they are called when some action is taken on that object, such as left-clicking.
They are never called by Excel during a recalculation.
They cannot be called by functions during a recalculation.

We used various commands/functions in the cells of our dataset in excel, such as max() and min(). These commands were very useful as they gave us a direct answer.

2. **Pivot Table**
   A PivotTable is a powerful tool to calculate, summarize, and analyze data that lets you see comparisons, patterns, and trends in your data. PivotTables work a little bit differently depending on what platform you are using to run Excel.
   You can use a PivotTable to summarize, analyze, explore, and present summary data. PivotCharts complement PivotTables by adding visualizations to the summary data in a PivotTable, and allow you to easily see comparisons, patterns, and trends. Both PivotTables and PivotCharts enable you to make informed decisions about critical data in your enterprise. You can also connect to external data sources such as SQL Server tables, SQL Server Analysis Services cubes, Azure Marketplace, Office Data Connection (.odc) files, XML files, Access databases, and text files to create PivotTables, or use existing PivotTables to create new tables.

After exploring both the methods, the participants realised that working with pivot table is faster and easier as compared to the commands that they need to write correctly.

Photos:

Feedback from the participants

https://forms.gle/YDwAdVY515JHRKde8

https://drive.google.com/file/d/1wiC357KJbrrgqbPb4zfa59xoxRzvVHAK/view?usp=sharing

Committee members involved

Introduction to the event: Kush Jadav
Questions 1 to 3: Aniket Patel
Questions 4 to 6: Khushi Pandya
General Management and assisting participants: Shruti Nathvani, Dharmi Javiya

List of participants

Table 1

NAME	ROLL NO.	COURSE NAME	SEMESTER
Divyarajsingh Chudasama	92100133073	ICT	4
Namra Ravani	92100133053	ICT	4
Jenish Desai	92200957030	Diploma ICT	2
Kaavya Roa	92200957049	Diploma ICT	2
Devansh Karia	92200957019	Diploma ICT	2
Monil Patel	92200957005	Diploma ICT	2
Meet Senjaliya	92200957014	Diploma ICT	2
Tejas Vadgadiya	92200957018	Diploma ICT	2
Bhumika Makwana	92200133039	B.Tech ICT	2
Maheshwari Bhadreshwara	92200133015	B.Tech ICT	2
Dhruvi Patel	92200133029	B.Tech ICT	2
Dhruvi Bhalodiya	92200133041	B.Tech ICT	2
Vrajkumar Nandana	92200133018	B Tech ICT	2
Devansh Bagatharia	92200957004	Diploma ICT	2
Harshal Bhatt	92200957017	Diploma ICT	2
Aryan Joshi	92200957034	Diploma ICT	2
Isha Dave	92200957011	Diploma ICT	2
Rathika Dodıya	92100957065	Diploma ICT	4
Thian Lian Ben	92100133006	M Tech CE	4
Lal Than Sang	92100374035	MBA [BA]	4
Maan Desai	92110133008	B.Tech ICT	6
Mayurdhvajsinh Jadeja	92000133001	B.Tech ICT	6
Deep Bhalsod	92100133072	ICT	4
Dhara Koiya	92100133051	ICT	4
Niva Rathod	92100133086	ICT	4
Twinkle Kangad	92200789006	BA [English] [Hon.]	2
Mansiba Gohil	92100133036	ICT	4
Nidhi Dhinoja	92100133061	ICT	4